

THE CLAIMS

What is claimed is:

5

1. A cranial void filler comprising:
an upper mineralized cortical bone section, and
a lower, at least partially demineralized cortical bone section,
wherein the lower section is adapted and configured to contact walls of a cranial void.

10

2. The cranial void filler of claim 1, wherein the upper and lower
sections form a T-shape.

15

3. The cranial void filler of claim 1, further comprising at least one slit
extending through at least a portion of at least one of the upper and lower sections.

20

4. The cranial void filler of claim 1, wherein at least one slit extends
through a portion of the upper section and at least one slit extends through the lower
section.

5. The cranial void filler of claim 4, wherein the at least one slit in the
lower section is colinear with the slit in the upper section.

25

6. The cranial void filler of claim 1, wherein the upper section has a
rounded upper surface portion.

7. The cranial void filler of claim 1, wherein the upper section has a
curved lower surface portion.

30

8. A plate comprising:
a unitary body with a pair of portions having a first width and a central
portion disposed therebetween having a second width, the first width being greater than the
second width, and the body being formed of cortical bone; and
at least one partially demineralized region,
wherein the at least one partially demineralized region confers flexibility to
the plate.

35

9. The plate of claim 8, further comprising a plurality of fastener holes.

10. The plate of claim 9, wherein the body has a central longitudinal axis and a first at least partially demineralized region that is coaxial therewith.

5

11. The plate of claim 10, wherein the first at least partially demineralized region extends substantially across the entire length of the body.

12. The plate of claim 10, wherein the fastener holes are disposed
10 proximate ends of the body.

13. The plate of claim 12, wherein the fastener holes are disposed on a central longitudinal axis, and a first at least partially demineralized region is coaxial therewith.

15

14. The plate of claim 13, wherein a at least a second at least partially demineralized region is disposed transverse to the first at least partially demineralized region.

20

15. The plate of claim 14, wherein the at least second at least partially demineralized region is generally perpendicular to the first at least partially demineralized region.

16. The plate of claim 15, wherein the at least second at least partially
25 demineralized region intersects at least one fastener hole.

17. The plate of claim 8, wherein the body is relatively thin compared to its length or width.

30

18. The plate of claim 8, wherein the at least one partially demineralized region extends substantially across the second width.

19. The plate of claim 18, wherein the body has a central longitudinal axis and the at least partially demineralized region extends transverse to the central
35 longitudinal axis.

20. The plate of claim 19, further comprising a plurality of fastener holes.
21. The plate of claim 8, wherein the body is generally dogbone shaped.
- 5 22. The plate of claim 8, wherein the body has a central longitudinal axis, and the length of the body along the central axis is between about 10 mm and about 20 mm.
23. The plate of claim 22, wherein the first width is between about 4 mm and about 7 mm.
- 10 24. The plate of claim 23, wherein the body has a thickness between about 1 mm and about 3 mm.
25. The plate of claim 23, wherein the body has a length of about 15 mm, 15 a first width of about 5 mm, and a thickness of about 2 mm.
26. An implant comprising a unitary section of cortical bone having a first portion that is mineralized and a second portion that is at least partially demineralized, wherein the mineralized portion includes a plurality of slits to facilitate bending of the 20 unitary section.
27. A method of forming an implant comprising:
obtaining cortical fibers;
at least partially demineralizing the fibers;
25 allowing the fibers to clump together; and
allowing the fibers to dry in a clumped state.
28. The method of claim 27, wherein the fibers are allowed to dry in a mold.
- 30 29. The method of claim 28, further comprising pressing the fibers while the fibers are clumped together.
30. The method of claim 27, wherein the fibers are obtained by milling.
- 35

31. An implant for maintaining a space in a bisected vertebrae comprising:

a cortical bone cord having a first and second free ends adapted for engaging exposed portions of the lamina, and a region positioned between the first and second ends,
5 wherein the region is at least partially demineralized to provide flexibility.

32. The implant of claim 31, wherein the free ends are mineralized.

33. The implant of claim 31, wherein the cord further comprises a pair of
10 at least partially demineralized regions with a mineralized central region therebetween.

34. The implant of claim 31, wherein the at least partially demineralized region is centrally located between mineralized free ends.

15

20

25

30

35